Research on the Model Consumption Behavior and Social Networks Role of Digital Music

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Abstract—In order to better understand the psychosocial factors involved in consumption to online music, we examine the role that two types of social networks—advising network and emotional network—play in individual consumption to digital music, especially the consumption to online music in China. Using survey data from 154 college students in 3 universities, we find that the person who is more dependent on social network may tend to download music from internet and consultation network has more influence on downloading music from internet than friendship network as well as some interesting results. We conclude the paper by discussing theoretical implications for the relevance of social network research for members' adaptation to digital music as well as outlining specific implications for practice.

Index Terms—online music, download behavior, social networks

I. INTRODUCTION

Digital music refers to the process of music producing, dissemination and storage, which uses digital technologies. Digital music products include songs, MV, flash and so on.

According to the different transmission channels, digital music is divided into two parts, online music and wireless music (also called mobile music). Online music mainly refers to the digital music that audio format is MP3, WMA or some kinds else, listened online or downloaded to broadcast equipments. It corresponds to network market. Wireless music mainly refers to ringtones, CRBT (coloring ring back tone), IVR bell and whole songs downloaded to the phone (include WAP/MMS) that are via mobile communication network and terminals to provide digital music. It corresponds to mobile value-added market.

A. Online music

Online music refers to digital music which is listened online or downloaded directly to computer and other broadcast equipments.

The superiority of online music is obvious. People can select what they enjoy and combine optionally. Online music has seriously snatched market from traditional retail stores. With the help of long tail theory, people wouldn't pay 70% goods from traditional shelves that are useless. They just pay what they enjoy, select from internet. What's more, internet provides more widely select range than traditional shelves. No matter what volume zone, or niche products, people can easily find from internet.

Up to now, more than 500 online music facilitators provide online music service to at least 40 countries. One online music store can accommodate four million singles. However, one largest traditional music store can only provide 15 million singles. The amazing capacity of online music stores is incomparable to traditional ones.

The development of online music store is rapid. From the income scale of global current digital music market, we find that in 2006 digital music revenue accounts for only 8% of the total music market, however in 2010 it is almost 30%.

IFPI digital music report (2007) points out the five most important characteristics affecting online music consumption:

(1) Find the music which enjoy (Search or recommend)
(2) Diversity selection (content, classification search)
(3) Music price
(4) Get free music
(5) Audition before buying it

B. Mobile music

Mobile music is a kind of music service by mobile internet, including ringtones downloading; CRBT (coloring ring back tone), IVR bell, whole songs downloading and wireless audition in the future.

The development of Mobile music is rapid, and now it becomes the most attractive consumption of entertainment economy. According to iResearch analysis report, in 2009, the scale of China mobile music market reached 30.87 billion Yuan which increased 9.8% comparing with the scale in 2008. With the improving of environmental factors like market scale, 3G commercial process, China mobile music market will be increasing stably in the future. It is expected that the scale of China mobile music market will achieved 39.28 million Yuan.

From 2002 to 2008, China mobile music industry has experienced three stages, including beginning,

development, and maturity. In 2002, China mobile launched downloading phone rings service, and the market enters in the beginning stage. In 2003, with the CRBT launched, more and more customers use phone rings, CRBT, speech-on-demand and other mobile music services. Since 2005, music phone has become the mainstream products. After 2008, with the 3G commercial promotion and music phones popularization, single downloading and listening which are based on the 3G network would be popular.

As a kind of fashionable value-added business, the user groups of CRBT have a large number of music lovers. CRBT helps customers have a deeply comprehension to digital music business, and accumulate potential users to digital music business. With the commercial of 3G network, China mobile, based on the extensive network user groups and customers comprehensions to digital music business, extends to music downloading and other types of mobile music business.

C. Online social network

The scale-free properties of online social network topology provide digital music an ideal place to diffuse. Throughout a long period of social network studying on the algorithm of online social network structure, we have obtained some significant conclusion that made by academics, these mathematical achievements may throw light upon the mystery hiding behind the phenomenon of online music diffusion, as well as mobile music. Initially, a uniform probability to all random graphics has been assigned to static scale-free network of N nodes with degree k, as shown in Eq.(1).

$$N(k) = e^{\alpha} k^{-\lambda} \qquad (1)$$

As the development of online social network, social network have evolving so much from static scale free network to a more dynamic one. Eq.(2) shows the evolved BA model that correlation to age a of a node with k link degree.

$$N_a(k) = \sqrt{1 - \frac{a}{N}} (1 - \sqrt{1 - \frac{a}{N}})^k \qquad (2)$$

D. The basic attributes of Chinese users' behaviors

Distribution of gender: The number of male covers a large percentage in the number of on-line customers. The data collected by iResearch shows that the proportion of male users is over 60%.

Distribution of age: The proportion of customers, whose age range from 25 to30, covered the 42.6 %; the customers, whose age range from 18 to 24, covered 23.1%; the customers, whose age range from 31 to 35, covered 18.6%. More than 60% customers' age range from 18 to 30 and that proportion can exceed 80% when customers' age ranges from 18 to 35.

Distribution of education: More than half users own bachelor; 31.1% users graduated from junior college; the percentage of students in senior high school, people who owns master or PHD, and students in junior school or

below that education level, are 8.2%, 7.7%, 3.0% respectively.

And there are some other phenomena:

The search engine becomes the first choice for net citizens in China when they search music on Internet. The users for on-line music attach much important on the accuracy of the result from search engine. When search music, users always pay much attention to the advertisements on host page of the website. The search engine is still the main way for users to acquire music what they want. About 85.8% Chinese net citizen acquire music by making use of search engine; the proportion of people, who log in professional music websites, are 48.2%; that proportion reach 27.1% when people use some Chinese gateway websites, such as Sina, Sohu.

II. LITERATURE REVIEW

Social influence occurs when a person adapts his or her behavior, attitudes, or beliefs to the behavior, attitudes, or beliefs of others in the social system [5]. Social influence has been the subject of more than 70 marketing studies since the 1960s. Overall, scholarly research on social and communication networks, opinion leadership, source credibility, and diffusion of innovations has long demonstrated that consumers influence other consumers [6]. Influence does not necessarily require face-to-face interaction but rather is based on information about other people [7]. In an online community, information is passed among individual users in the form of digital content. Here, we consider a particular type of social influence that takes place in an online community—namely, when members change their site usage in response to changes in the behavior of other members.

Though a relatively new area in marketing research, online communities have attracted the attention of many scholars. Dholakia, Bagozzi, and Pearo [8] study two key group-level determinants of virtual community participation— group norms and social identity—and test the proposed model using a survey-based study across several virtual communities. Kozinets [9] develops a new approach to collecting and interpreting data obtained from consumers' discussions in online forums. Godes and Mayzlin [10] and Chevalier and Mayzlin [11] examine the effect of online word-of-mouth communications. Dellarocas [12] analyzes how the strategic manipulation of Internet opinion forums affects the payoffs to consumers and firms in markets of vertically differentiated experience goods. Narayan and Yang [13] study a popular online provider of comparison-shopping services, Epinions.com, and model the formation of relationships of "trust" that consumers develop with other consumers whose online product reviews they consistently find to be valuable. Finally, Stephen and Toubia [14] examine a large online social commerce marketplace and study economic value implications of link formation among sellers.

A new perspective on adoption may be necessary to fully capture the nature of technology acceptance in social computing situations, where the technology is embraced rather than simply accepted by the user, and

where the action made possible by technology is seen as a behavior embedded in society. A technology that was originally intended to deliver subscriber information was adopted by end users as a vehicle for social behavior. As the Internet, networking, and communications technologies become increasingly embraced by individuals and embedded in everyday lives and activities, technologically enabled social structures are emerging that are changing the way individuals interact and communicate, and are facilitating fundamental changes to business practices.

From the analysis of economic behavior, the economic behavior must be carried out in the middle of society and the human relationship must affect the economic action. However the rational side of economic behavior has rational side and non-rational side. The economic action of individuals is influenced by the trust and emotional factors of human relationships. For instance, our consumption behavior is often affected by the advertisement spoke by the superstar. Therefore our consumption is not rational. It is subject to the impact of a leader. The more products are bought and the more people will join. It is just like a rolling snowball which becomes bigger and bigger. In reality, it is not completely equal for each person who accesses to the information. The spread of information is affected by social relations and the impact of social network structure. The utility of each person is not isolated. Personal relations will be affected at any time. An individual's social structure and position will affect his information and the access of resources.

We mainly use the Granovetter's advantage theory of weak ties. Simply speaking weak ties mean the relationship is far from us. It is obvious that weak ties do not share information so much and the difference of information is big. For instance, I can obtain more information about the cost of a computer's memory and quality of a computer from a stranger in the computer city in comparison with my classmate when I buy a computer. I have never had concerns about this kind of useful information. People with weak ties can collect more information because of the wide range of social networks.

A person, good at the exchange of resources, can acquire the resource from the organization. The opportunity is more when the human relationship points to the valuable resources. A person seeking for a job can have more opportunity when the relationship is across between these two groups. Only the person with weak ties has the opportunity to become a "bridge" between the different groups. The strong ties are the opposite of week ties. The sharing of information is in a small range and repeated for a person with strong ties.

For example, a couple of male and female contact every day but they basically talk about the same thing. That is about what they do today. A lot of information is repeated. Even though, the strong ties cannot be ignored. Chinese society is a human society and the human is more important than the information. Strong ties can bring us the sense of trust. The social exchange is unlike the economic exchange such as the trade of merchandise

and money. It often takes a very long time to find the right time to pay back when you owe someone a favor. Without the sense of trust, we cannot engage in the human exchange. Weak ties provide the channel of information and strong ties provide the foundation of trust. In this paper, we will study in the weak and strong ties analysis in relating to the social networks on the impact of online music downloads.

III. RESEARCH DESIGN

A. Hyperthesis Development

In view of the complexity of social network theory and its own limits of knowledge, we may start with the social network theory in connection with the download of online music. It is to verify the hypothesis in order to discuss the study of social networks on the impact of online music downloads. Through the assumption of an empirical study it is to verify the theory in practical applications. On the other hand, it is correctly to understand the social networks on the impact of online music download. Read phonetically.

As mentioned the diversity and complexity of social network theory, this article adopts the direction about the user's social characteristics of online music download. We also combine the social network theory with hypothesis. So the proposal of the hypothesis is also related to characteristics of the user's social network. We discuss characteristics of the user's social network including the dependence on social networking, advice of network center and emotional center of the network. We made a survey to the people with a strong dependence on the social network, people with advice and emotional well-developed network who download the online music. We can relatively and simply apply the social network theory into the actual case of online music downloads.

In order to research social network characteristics of the user, we should first study the attitudes of social network. A person's dependence on social networks affects his access to resources directly. The more dependent he is on a strong social network to access resources, the more likely wide the resource is. So, we have come to an assumption that "people with a stronger dependence on the social network, the greater likelihood of online music download." "weak ties can mainly pass the resource of information and knowledge. Strong ties can pass the resource of a sense of trust and influence." We can conclude that the advice network is attributed to weak ties and the emotional network is attributed to strong ties. According to the theory of "strength hypothesis of weak relationship" and " strength hypothesis of strong relationship", we have come to assumption two that "people with a larger counseling needs in social network, the greater the possibility of online music download". Assumption three is "people with a greater emotional need, the greater likelihood of online music download".

In the case of no previous research, we propose the following three hypotheses based on the social network theory:

H1: People with a stronger dependence on the social network, the greater likelihood of online music download

H2: People with a larger counseling needs in social network, the greater the possibility of online music download

H3: People with a greater emotional need, the greater likelihood of online music download

B. Research Model

Based on the above mentioned, this paper presents factors in the social network within the intention model of online music download. It is shown in Fig.1.

Usually, the research of social networks is required to establish a causal model in order to apply to the practical problem. This model is evolved into different forms. We study the impact of the social network to the online music download and create a simple causal model. It is the method of measurements for independent and dependent the variables.

According to the afore-mentioned three assumptions, they are "people with a stronger dependence on the social network, the greater likelihood of online music download.", "people with a larger counseling needs in social network, the greater the possibility of online music download", and "people with a greater emotional need, the greater likelihood of online music download".

We can select three factors of online music that are the three dimensions of dependence, consulting needs and emotional needs of a social network. Therefore, we get three independent variables which are the dependence, consulting network, and emotional network of social networks.

Through the design of questionnaires to measure these three independent variables, we will discuss the specific design method and basis of the questionnaire in the next paragraph.
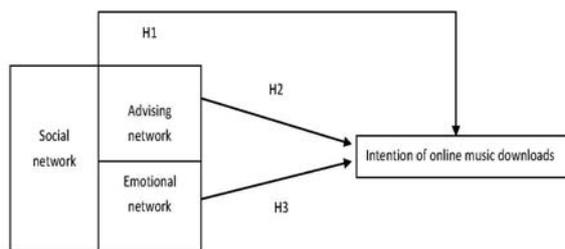

Figure1. Research model

C. Measurement Scale

First of all, in the view of the convenience and features of online music users, we chose in college students in the survey. There is no questionnaire about the situation or attitude of online music download in the current academic study.

There are some survey questionnaires for commercial use purpose. This kind of questionnaire is not applicable

to this study. The Likert rating scale is the most common format for opinion or attitude surveys. In here, we use the five-point Likert scale questionnaire in the format design of the questionnaire. Questionnaire consists of three parts: the sample definition, measurements of independent variable and dependent variable, and the population variable. The part of sample definition designs four questions. There are four small measurements in the survey. They are the situation of internet usage and online music usage, measurements of independent variable and dependent variable, and individual design problem based in part on the dependent variable and three independent variables.

Each part of design has about ten questions in order to measure the independent variable, the dependent variable, the population variable. We survey the personal basic information according to the different object in the survey.

The design of question is different for the personal basic information. In here, we design four questions to investigate the personal basic information.

The first part of the questionnaire is the sample definition. There are many questions in the sample definition in the survey of questionnaire. In the questionnaire of the sample definition of this paper, the design of survey object is based on the existing authority and validity of the question. The first question is to determine the average daily time spent online. This question comes from the questionnaire of the paper of Luo Jia De "whether the virtual relationship reflects in the real life relationship" [15]. The second question is to investigate whether the downloaded of online music that is based on research topics to define. The next two questions are designed according to the actual situation of college students in connection with the usage of online music.

The second part of the questionnaire is the core, that is, how to measure the independent variable and dependent variable. The measurement of independent variable and dependent variable are used by the five-point scale method (strongly agree, ordinary agree, do not agree, strongly disagree). There are four questions designed about the dependent variable. Its content is referred to the attitude questionnaire of computer [16]. Questions such as: "I have been using online music", "I would like to introduce others to download online music," and so on. In the part of independent variable, there is three independent variables. The corresponding question is designed based on the different independent variable. The measurement question of reliance on social networks is referred to the attitude questionnaire of computer [17]. The ultimate purpose is to get a result of survey about the reliance of attitudes and social networks. Such as: "I think that classmates and friends help me a lot in my learning of life," "I like to communicate with other people to chat" and other nine questions.

Krackhardt divides people in the organization of the social network into three. One is the emotional network, one is a consulting network, and the other one is the intelligence network. Only the last study of personal attitudes indicated that the emotional network is the most influential factor in the formation of attitude. The consulting network has influence in some of the issues and the intelligence network is seldom mentioned [18].

Therefore, we only select two questions about the emotional and consulting networks in this study. On this basis, we added, modified, and completed the questions in relation to the emotional needs of social networks and measurement of the consultation requirements. Question of emotional needs is like "I am willing to share feelings and privacy with friends." and other nine questions. Advisory-related topic is like "I often asked my classmates about current events" and other ten questions. This part of the design is primarily to test the hypothesis that is also the focus of this study.

The third part of the questionnaire is the measurement of population variables, namely, basic personal information survey. There are many questionnaires in this regard. Because the survey is aimed to college students, the question is designed based on the actual situation of college students. In addition to the gender of students, we also design four questions such as the monthly cost of living, the annual cost of audio and video products etc. This part of design is to survey the characteristics of the object. On the other hand is to conduct descriptive statistics and draw some conclusions.

IV. DATA ANALYSIS

A. Description of Sample

The form of the questionnaire about this research is paper-and-pencil. Respondents are undergraduates who have downloading music from internet experience. 200 questionnaires were sent out, and 161 of them were returned. After eliminating 7 ones, we collected 154 available questionnaires, which contribute 50% of the total sample. Then input these available questionnaires into the computer, and process them by SPSS statistical software. The basic characteristic of valid sample is shown as Table 1.

In addition, through SPSS statistics software we get that average value of intention for downloading music from internet is 3.9464. It means that this intention is salient among undergraduates and downloading music from internet has been widely spread in the college students' lives. The result shows that the average value of intention for a man is 4.25, and it is 3.6935 for a woman.

We can conclude that men are more interested in downloading music from internet than women.

B. Reliability and Validity Analysis

This research is used content consistency reliability which assesses the variable groups' reliability through calculation coefficients 'a' of Cronbach. The value range of the 'a' is from the negative infinity to +1. The coefficient is closer to +1, and the reliability is higher. If

Table 1. Sample characteristics statistics

Questions	Options	frequency/person	proportion/%
Gender	Male	70	45.4%
	Female	84	54.6%
Average online per day	<1hour	6	3.9%
	1~2 hours	39	25.3%
	2~3 hours	44	28.6%
	3~4 hours	35	22.7%
	>4 hours	30	19.5%
Downloading music from internet	Yes	151	98.1%
	No	3	1.9%
Living expenses per month	<300 RMB	4	2.6%
	301~600 RMB	32	20.8%
	601~1000 RMB	74	48.1%
	1001~1500 RMB	39	25.3%
	>1501RMB	5	3.2%
Consumption on audio and video products per year	0 RMB	44	28.6%
	<50 RMB	79	51.3%
	51~150 RMB	21	13.6%
	151~250 RMB	5	3.2%
	>251 RMB	5	3.2%
How many times go to the concerts per year	0	106	68.8%
	1-2	41	26.6%
	2-5	6	3.9%
	5-10	1	0.6%
	>10	1	0.6%

the coefficient is too low, we should adjust it. Because it means that what we measured are not the same concept. Table 2 is the reliability analysis of this research questionnaire.

From the result of reliability analysis (see table 3), we can get that the intention questionnaire about social network and downloading internet music which consists 32 questions has high coefficient of internal consistency (0.9382), and deleting any questions makes no sense of improving effectiveness of questionnaire. As a consequence, the table has high reliability.

In this paper, social network as a variable includes consultation network and emotional network. They will be on factor analysis as independent variables to verify the questionnaire structural validity. Total refers to eigenvalue, and the first component's eigenvalue is 9.401, the second is 3.920. What's more, only two factors' eigenvalue are greater than 1, the sum of eigenvalues contributes 70.109% to total variance. In other words, the first two factors can explain 70.109% variation of primitive 19 variables. Analysis result shows that the 19 questions can concentrate to two factors. After determining the two dimensions structure of the table, rotate the factor of the table and then get the factor rotation matrix. The result shows that the two factors' questions are the same as the original questionnaire.

C. Regression Analysis

a. Regression analysis and hypothesis testing

In order to verify the hypothesis of the model, the research do the regression analysis about related factors after assuring that measuring tools achieve great reliability and validity.

The model coefficients are calculated by SPSS statistics software, about downloading music from internet intention and social network dependency. We can find that the regression model constant term is 1.486, regression coefficient of independent variable "dependence of social network" is 0.626. Thus, we can get the regression equation: intention of downloading

Table 2. Reliability analysis (n = 154)

I will tell my friends what makes me unhappy	0.4040	0.8716
I like to make friends.	0.6638	0.8463
I may make new friends actively	0.5237	0.8602
Rich relationships is important for personal development	0.5183	0.8595

α = 0. 8477 (N = 154)

I always inquire current affairs from my classmates	0.5833	0.8301
I always inquire campus activities from my classmates	0.6454	0.8249
I always inquire information of lives from my classmates	0.6504	0.8252
I always talk about studying problems with my classmates	0.6228	0.8264
I will ask classmates or teachers when I encounter difficulties in studying	0.5483	0.8335
I always talk about news with my classmates or friends	0.5429	0.8343
I get many information from my classmates and friends	0.5928	0.8298
I always send information by internet (like BBS, E-mail)	0.4373	0.8439
I will send news to around	0.5526	0.8330
I always chatting with my friends by internet	0.3447	0.8535

α = 0. 8948 (N = 154)

I will share emotions with friends	0.7005	0.8795
I will tell friends when I am accused by teachers or bosses	0.7151	0.8783
I will tell friends when I face frustrated of life	0.7459	0.8757
I will chatting with friends when I feel frustrated	0.6641	0.8824
I will ask for help from friends when I'm in affection problems	0.7377	0.8765
I will ask for help from friends or elder when I face important choice	0.6184	0.8861
I will talk about privates with friends	0.7170	0.8780
Knowing some privates of best friends is helpful to strengthen friendship	0.5566	0.8911
I'd like to have some best friends	0.4356	0.8983

music from internet = 0.626× dependence of social network + 1.486.

The significance level of regression coefficient is 0.0000, it refuses to do zero hypothesis of the t testing. It also shows that linear relationship between dependent variables and independent variables is remarkable and it can make linear models. For H1: the person who is more dependent on social network may tend to download music from internet. It has a positive correlation between dependence of social network and downloading music from internet. And the regression coefficient is 0.626. So H1 is right, and we can draw a conclusion: the dependence of a person to social network has influence on whether he downloads music from internet.

With the help of result of assumption one, we can verify assumption two and three in the same way. As shown in Table 3, it is the model coefficient table which the dependent variable is intention of downloading music from internet, and the independent variable is consultation network.

From the table we can find that the regression model constant term is 1.655, regression coefficient of independent variable "consultation network" is 0.628. Thus, we can get the regression equation: intention of downloading music from internet = 0.628× consultation network + 1.655.

Table 3. Model Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.655	.354		4.676	.000
	Consultation network	.628	.096	.470	6.563	.000

The significance level of regression coefficient is 0.0000, it refuses to do zero hypothesis of the t testing. It also shows that linear relationship between dependent variables and independent variables is remarkable and it can make linear models. For H2: the person who has greater consultation needs in social network may tend to download music from internet. It has a positive correlation between consultation network and downloading music from internet. And the regression coefficient is 0.655. So H2 is right, and we can draw a conclusion: the needs of a person to consultation network have influence on whether he downloads music from internet.

Finally, it is the verification of assumption three. As shown in Table 3-6, it is the model coefficient table which the dependent variable is intention of downloading music from internet, and the independent variable is friendship network.

From the Table 4, we can find that the regression model constant term is 2.717; regression coefficient of independent variable "friendship network" is 0.330. Thus, we can get the regression equation: intention of downloading music from internet = 0.330× friendship network + 2.717.

The significance level of regression coefficient is 0.0000, it refuses to do zero hypothesis of the t testing. It also shows that linear relationship between dependent variables and independent variables is remarkable and it can make linear models. For H3: the person who has greater emotion needs in social network may tend to download music from internet. It has a positive correlation between friendship network and downloading music from internet. And the regression coefficient is 0.330. So H3 is right, and we can draw a conclusion: the needs of a person to friendship network have influence on whether he downloads music from internet.

To sum up data analysis, we can get that the three hypotheses H1, H2, and H3 are all available.

b. *Comparative analysis*

According to the above conclusions, we know that the effectiveness of consultation network and friendship

Table 4. Model coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.717	.318		8.532	.000
	Friendship network	.330	.084	.304	3.937	.000

network have positive correlation with downloading music from internet. As two branches of social network, we can combine them to do multiple linear regression analysis. The analysis data are shown in Table 5 and 6.

Predictors: (Constants) Friendship network

Predictors: (Constants) Friendship network, consultation network

Dependent Variable: intention of downloading music from internet

From the Table 5, we can find that the significant probability of F distribution is 0.0000. It means that the linear correlation between dependent variable and independent variable is remarkable and it can make linear models.

The Table 6 is a model coefficient table that the same dependent variable constructs regression equation with two independent variables.

Dependent Variable: intention of downloading music from network

From the Table 6, we can get two regression equations. The second one is: Intention of downloading music from internet = 1.576 + 0.065 × friendship network + 0.583 × consultation network.

Thus, consultation network has more influence on downloading music from internet than friendship network. We mainly consider the value of Beta here. So, we have a conclusion that consultation network has more influence on downloading music from internet than friendship network.

The structure model which is based on the data shows that three hypotheses are available. Besides, we also find that consultation network and friendship network have difference influence on downloading music from internet, and men tend to it.

V. DISCUSSION AND CONCLUSIONS

The paper aims to research the influence of social network to downloading music from internet, and what kinds of network influence it. Based on the new research perspective, we get some significant conclusions through verifying research and data analysis.

First, the person who is more dependent on social network may tend to download music from internet. People communications depend on social network, and interpersonal relationship will influence our activities. The person who is more dependent on social network may get widely network resources, and tend to download music from internet. At here, we can consider people who are more dependent on social network are active with frequent social interactions. Therefore, for businesses, it

Table 5. Analysis variance

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.216	1	9.216	15.496	.000(a)
	Residual	90.404	152	.595		
	Total	99.621	153			
2	Regression	22.245	2	11.122	21.706	.000(b)
	Residual	77.376	151	.512		
	Total	99.621	153			

Table 6. Model Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.717	.318		8.532	.000
	Friendship network	.330	.084	.304	3.937	.000
2	(Constant)	1.576	.372		4.232	.000
	Friendship network	.065	.094	.060	.697	.487
	Consultation network	.583	.116	.436	5.042	.000

is more effective to propagandize and spread downloading music from internet to these people.

Second, the person who has greater consultation needs in social network may tend to download music from internet. Consultation network belongs to weak ties of transferring information, knowledge and other resources with wide range of social web and large gathered information. The person who has greater consultation needs in social network pays attention to weak ties. The weak ties just like a information channel. Information contents have directly influence on intention of downloading music from internet. So, the person who always chats with others or consults information online may be possible to download music from internet. The conclusion is important to help merchants know characteristics of users.

Third, the person who has greater emotion needs in social network may tend to download music from internet. Friendship network belongs to strong ties of transferring sense of trust, influence and other resources. Human relationship is very important in Chinese society. Strong ties bring us sense of trust. This feeling has a great influence on what they choose to whom with large emotion needs. As the data analysis shows that emotion needs have positive correlation with intention of downloading music from internet. In other words, the person who has greater emotion needs in social network may tend to download music from internet.

Fourth, consultation network has more influence on downloading music from internet than friendship network. From the regression analysis with the same dependent variable (intention of downloading music from network) and two independent variables (consultation network and friendship network), we get that regression coefficient of consultation network is much larger than friendship network. Strong ties share narrow range of information with repetition. Although both of them have positive correlation influence on downloading music from internet, the degree differs a lot. Therefore, for merchants, they should pay more attention to network music spreading between weak ties.

Fifth, men tend to download music from internet than women. Nowadays, downloading music from internet as a new form of music appreciation has the rapid development of social network. Contemporary undergraduates have stronger ability to accept new things than other groups in society. What's more, men can use new things faster than women. From this conclusion, merchants may see characteristics of users who download music from internet.

Overall, this research mentions some new opinions, but the following limitations also exist: First, the randomness of questionnaire is limited. We just sent questionnaire to undergraduates of Beijing University of Posts and Telecommunications. Second, there are many factors influencing downloading music from internet. Because of research topic, we just discuss the social network, and give no demonstration of other factors. Finally, we design 19 questions to assess consultation network and friendship network in this research. Actually there is no certainly way to integrate them to an effective guideline. This is mainly the theoretical problems. At present, the most effective strategy is to verify the shortage of theory through lots of empirical study, and make a rigorous table like psychology.

This research just from a shallow perspective discusses the influence of the social network to downloading music from internet. It summarizes the theory of social network and analyses the influence on downloading music from internet from two dimensions. What's more, we also find other topics which can be deeply researched. One is subsequent researchers can expand respondents, and analyze the influence as a whole. The other is from some new perspectives to analyze it, like social capital theory and structural hole. Because the social network theory is complicated, this research is mainly from, the strength of weak ties and strong ties power hypothesis, these two perspectives to do the analysis.

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